CONSUMERS' Guide

VOLUME IV, NUMBER 15 OCTOBER 18, 1937

MEAT GRADES AT YOUR SERVICE

CONSUMERS' Guide

Issued every two weeks by the
CONSUMERS' COUNSEL DIVISION
Agricultural Adjustment Administration
D. E. MONTGOMERY, *Director*
MARY TAYLOR, *Editor*
Address all inquiries to
Editor, CONSUMERS' GUIDE
U. S. Department of Agriculture
Washington, D. C.

VOL. IV, No. 15 OCTOBER 18, 1937

MORE than a half billion pounds of meat were quality graded by the Federal Government in the year ending with June 30, 1937. Ten years ago there were only about one-tenth as many pounds bearing the Government quality marks. In the first story of this issue we explain what this service means to the householder who wants to make her meat money count in meat values. Official headquarters for Federal meat grading is the Bureau of Agricultural Economics in Washington. This Bureau has stationed its official graders in 21 cities: Baltimore, Boston, Buffalo, Chicago, Cleveland, Columbus (Ohio), Detroit, Kansas City (Missouri), Los Angeles, New York City, Oklahoma City, Omaha, Philadelphia, Phoenix, San Francisco, Seattle, Sioux City, St. Paul, Wheeling, Wichita, and Washington, D. C. Any large dealer in any part of the country can order from the firms that use this grading service. In turn, any retailer can order from these dealers or buy direct from places where graders are located. Retailers usually furnish Government graded and labeled meats when consumers demand them. . . . A handy little reminder to stick in your pocketbook until you learn the grade names by heart is Leaflet No. 122, "U. S. Graded and Stamped Meat", for sale for 5 cents from the Superintendent of Documents, Washington, D. C.

WHEN a leading merchant in Pennsylvania made a canvass of women's organizations throughout his State recently, he found "only two that are not actively engaged in a campaign for more merchandise facts to guide shoppers." This department-store merchant decided it was time to do something about such a widespread demand. He is now requiring that "every vendor tell us what is in the goods he sells us. The buyer will obtain this information and in turn will pass it on to the salespeople, who will be carefully trained to give the information to the customer." Other stores in other cities, too, are becoming consumer-conscious. From such beginnings there is still a long route to the ultimate goal of some consumer organizations which look toward the day when consumers can select goods on the basis of quality standards objectively determined and tested.

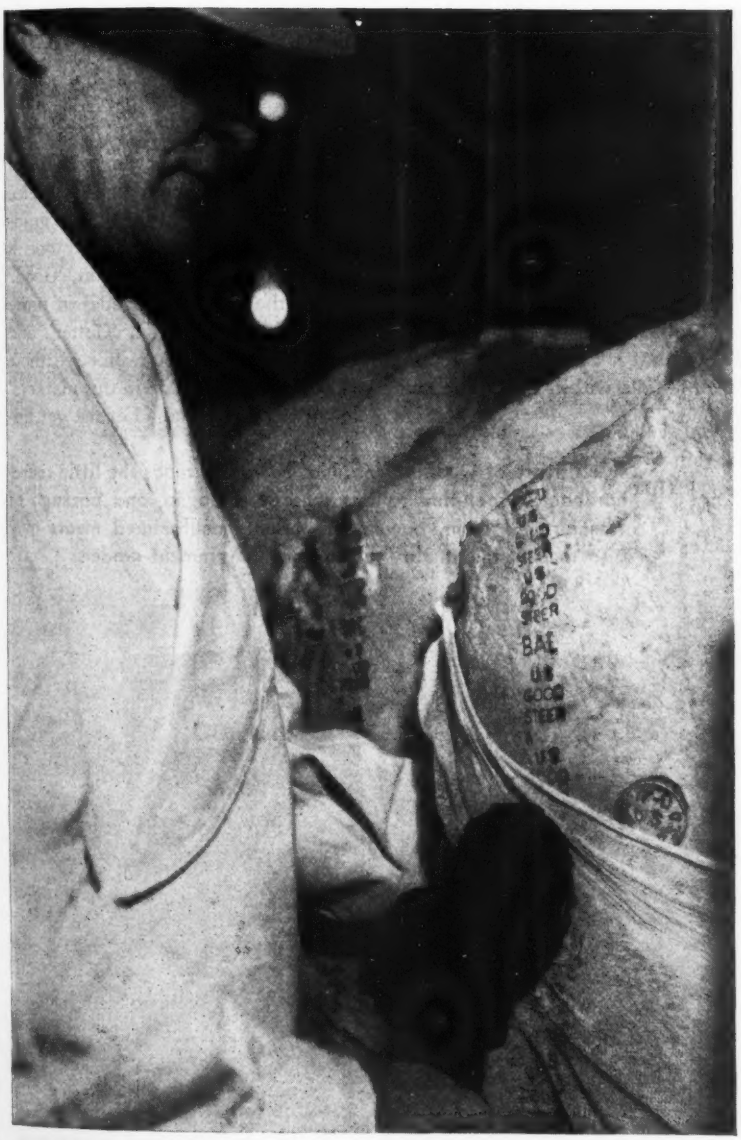
"THE technical man in the store laboratory", counselled a specialist from the Mellon Institute when recently addressing a conference on distribution, "should be the consumer's champion. The misuse of a testing laboratory as a publicity gag cannot be condemned too strongly. It is a prostitution of science and a betrayal of the public confidence. Retailers will do well to remember that laboratories are to find facts and not to foment adjectives."

NO EASY job lies ahead of the technicians and specialists from industry, Government, and consumer organizations who are working toward quality standards through the American Standards Association advisory committee on ultimate consumer goods. For a year this committee has been attempting to lay the foundations for definitions of quality standards for a long list of household commodities purchased by consumers. Its latest report, issued in September, starts off with shoes, "a difficult problem", the committee finds. It will be "some time before definite results can be hoped for on the part of the consumer." As a beginning, the committee plans to develop standards for sizes of children's shoes. Later, standards for quality of uppers, soles, and workmanship will be attempted. (See CONSUMERS' GUIDE, Sept. 20, for tips on how to buy shoes.) . . . Another important job to be undertaken is standardization of sizes of children's garments and patterns of such garments. These proposed standards will be based on an actual study of body measurements of children in eight selected regions of the country, now being made by the U. S. Bureau of Home Economics and nine cooperating State colleges and universities. How to translate results of this study into useful standards has already been discussed by Home Economics experts with representatives of pattern and garment manufacturers, retailers, and consumers. "A more logical and useful system of sizing for children's garments" is expected to result from the Bureau's work. . . . Recommendations for standards, on the basis of thread count, shrinkage, and size, for five classes of sheets were made and turned over to a group of specialists working out actual standards in this field. . . . Other products on which the advisory committee is concentrating are boys' clothing, gas-burning appliances, household refrigerators, hosiery, bedding, and upholstery.

LOUISIANA'S State Board of Health requires makers and packers of bread to put on the wrapper of each loaf a code mark which will identify the day of the week on which the bread was packed. Before the code mark is used it must be registered with and approved by the Health Board. . . . Knowing how old bread is, is a help. But how about information on what's in the loaf, too?

MEAT GRADES AT YOUR SERVICE

Mrs. Blank's butcher gives her some pointers on how to reduce the guessing on quality in the meats she buys



MRS. BLANK wore that faintly anxious look which often marks the moment when the family carver first applies the knife to the roast. Would the beef be tender? Would it be full-flavored and "just right?"

She received her plate, scanning critically the slice of beef upon it. After all, this was the substantial foundation upon which a good dinner is built. Such a meal is no better than its meat!

Mrs. B. tasted the beef with all the critical regard of a good cook. It was fair. But only fair. Why, on this particular occasion, when she had gone to such pains to try to get a really excellent roast, couldn't it have been just that? It wasn't bad; neither was it remarkably good.

Now this was a somewhat special occasion. There were other times when Mrs. B. was not accustomed to shop for the best roast of beef on the market. The Blank family lives like millions of other American families. For most ordinary dinners Mrs. Blank tries to buy meat thriftily—looking for reasonably good quality at not too high a price. But this was one time when she wanted and thought she had paid for the best.

Why was a roast of beef such a gamble? Couldn't one find a way to reduce the risk of getting just

"U. S. Good Steer" is the grade the Department of Agriculture expert is marking on this quarter of beef. When the beef is cut up by the butcher, each piece shows grade mark.

average quality meat when you think you're getting tops and are willing to pay for it? Must every housewife be as expert as the meat salesman, simply in order to get the quality of meat she thinks she's paying for?

As it happened, Mrs. B. learned not long afterward that her Government was trying to help her answer some of those questions. She had changed most of her meat buying to another store, and it was here that the manager first told her about the beef that had been graded for quality by the Federal Government.

She was interested at once. Here was something that she had not known about. Something that sounded as though it might be on the right track.

The meat manager showed her a loin of beef on which was stamped a long ribbon of words in purple ink, repeating over and over, "U. S. Good Steer." All the way down the back ran that purple legend so that virtually any cut out of that quarter of beef would show those significant words, "U. S. Good Steer."

"So that is the grade of the beef, is it?" asked Mrs. B.

"Yes, Mrs. B.", answered the meat man, "that is the grade stamped there by the Government grade expert. And of course it goes without saying that the Government man has no personal interest in the meat. He is like an impartial umpire. He judges its quality to the best of his trained ability and according to standards set up by the Government, and labels it. From there on the meat sells for just the grade which that stamp says it is."

Another stamp on the meat caught Mrs. B.'s eye—a little purple circle within which were a couple of numbers and the words, somewhat abbreviated, "U. S. Inspected and Passed."

"Is that something about the grade of the meat, too?"

"No, ma'am", answered the meat man. "Don't confuse that little round stamp with the grade stamp. That little circle is a Government stamp, too, but it shows that the meat was inspected and is free from disease. Meat slaughtered in most packing plants carries that little circular stamp, but that hasn't anything to do with this matter of grade that I am talking about. Don't let anyone fool you by telling you that the round circle shows the grade of the meat. It doesn't, as you can see by reading it."

"So there may be more than one kind of purple stamp mark on the meat?"

"Well, the circle is always there when the meat is prepared under Federal inspection. That passes it as disease-free and wholesome. But let's disregard that for the moment. What I am talking about is this stamp with the words 'U. S. Good Steer.' This is the one that shows the grade of the meat. Also what class of animal it came from. It shows that it came from a steer and that it falls within the grade called 'Good.'"

"Suppose it didn't come from a steer, what would it come from?"

"The grade stamp also tells whether the meat is from a steer, heifer, cow, or bull. As you probably know, a properly fed steer produces the very finest beef; but a well-fed heifer makes excellent beef, too. Some of the lower grades might come from a cow or bull."

"So it is a good idea to notice which kind of animal the beef came from as well as the grade of the beef?"

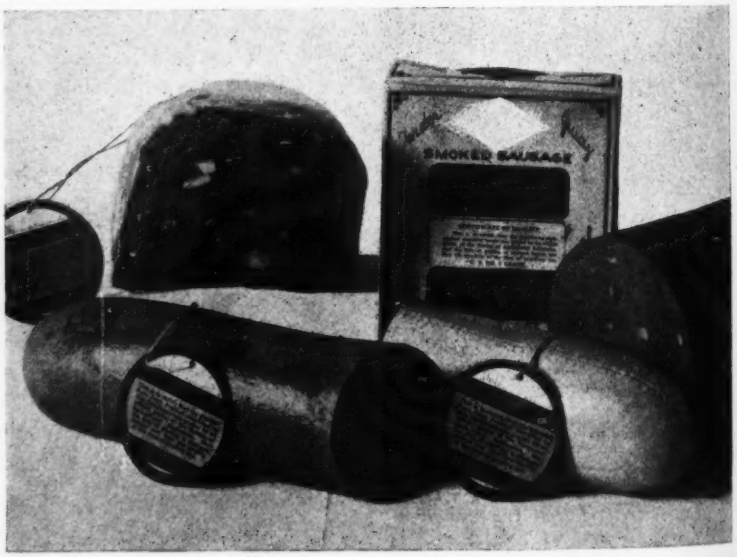
"Yes; that often cuts some figure in the quality of meat."

"But now about this grade business; is 'Good' the highest grade?"

"Not exactly the highest. The Government has seven grades for beef. The highest one is called 'Prime.' Then the next best grade is 'Choice.' Then the next one is this that you are looking at, 'Good.' Then the next four grades in order are 'Medium', 'Plain', 'Cutter', and 'Low Cutter.' You won't see those lower grades for sale in this market."

"Wait a minute! Let me get this

"Certificate of Quality, U. S. No. 1 Grade", reads the little round cardboard label tied to this sausage, bologna, and package of frankfurters. Ham, bacon, and other manufactured meats may also receive this quality grade from Government graders.



straight. Tell me those better grades again."

"'Prime' is the highest. Then come 'Choice', 'Good', and 'Medium' in that order. I should say you had better forget about the lower grades. Remember Prime, Choice, Good, and Medium. Those are the grades we handle and they are the ones you will want to buy."

"Probably I won't be able to remember which grade is which the next time I come in. You ought to have a card hanging up here telling the names of these grades and what each means."

"Yes, that would be a good idea. Still, I think you will remember them better than you think, once you get the habit of looking for this Government grade stamp on the meat."

"I am certainly going to look for it hereafter. But I wish you would tell me a little more about these grades. Just what does each one mean anyhow? Which would I want to buy at different times—and why?"

"Prime comes from steers or from the very finest heifers, never from cows or bulls. It is said that only about 1 percent of all cattle fall within the Prime grade. It is the cream of the crop. It means steers are bred for beef, and grain-fed for a long period. It means that the color, grain, and texture of the flesh, the color and structure of the bone, the color and arrangement of the fat are such that the meat should be of top quality. Prime beef doesn't sell much in the ordinary stores; but some of the best markets sell it. Much of it goes to the fine hotels, restaurants, clubs, and the like."

"Then the next grade is Choice, you said?"

"That's right. Choice is the top grade we handle, and it is good enough for anyone!"

"And what kind of cattle does the Choice beef come from?"

"Only from very well-fed steers or heifers. And only from cattle bred for fine beef conformation; that is, bred for the bodily form that gives the largest percentage of fine cuts with greatest economy in cutting. It means that you get more lean meat in proportion to the amount of bone in the retail cut. Also that it is fine quality meat with fat of the right amount and well marbled through the tissues. You ask for 'U. S. Choice' grade the next time you want a really good oven roast or a Porterhouse steak. You can pay your money for that kind of meat and you stand a much better chance of getting something very satisfactory than if you buy without regard to a grade mark."

"Indeed, it sounds good. But perhaps I won't be in the market for the higher-priced beef grades the next time I come in. I wish you would tell me a little more about those lower grades."

"Certainly. The next lower grade is this one you are looking at now, 'U. S. Good.' It looks good, too, doesn't it? It is splendid meat. This is what I usually take home myself. It doesn't sell at quite as high a price as Choice and gives you good value for your money."

"Tell me a little about this grade, please."

"This Good grade comes from what I might call the less finished type of grain-fed cattle and some from the highest types of grass-fed cattle. You understand that in general cattle do not fatten on grass as well as they do on corn. But some grass-fed cattle are good enough to get into this grade."

"The Good beef carries less fat than the Choice?"

"Yes, less fat. But it carries a fair amount of fat. You will see a limited amount of marbling."

"By the way, is this what you call marbling, these lines of fat meandering around through the lean meat?"

"Yes, that is what meat men call marbling. You notice there is a certain amount of it in this beef. In general, the Good grade means beef reasonably young and tender. No one need hesitate to buy the Good grade for ordinary family meals."

The "U. S. Prime Fowl" tag on dressed chicken means it has been judged first quality by official graders.

"And what did you say the next lower grade is? Prime, Choice, Good, then—let me see—Medium? Was that what you said?"

"That's right. The next one down is Medium. Now the Medium grade gets down to where you can economize. This is the beef to save money on when you want to, with pot roasts, stews, and so forth. Properly cooked, this meat is worth what it costs. Remember, I am not advising this for oven roasts and steaks for your special dinners. This is meat at a lower price. You have to take account of the lower price when you are figuring what this Medium grade is worth on your table.

"This isn't from the best-fed steers and doesn't carry much fat. You won't see much marbling in this cut. But this will save you money on your pot roasts and stews—on the so-

called moist cooking. That is about the story for the Medium grade."

"Well, this is very interesting. Now are you going to tell me about the still lower grades?"

"No, madam, I don't believe I will. At least not this time. I am afraid it would only confuse you. You probably won't see any of those lower grades in the stores or markets around here, anyway. If you will remember especially those three grades—Choice, Good, and Medium—you can buy your beef to fit the needs of both your table and your purse on every occasion."

Mrs. B's eye wandered down the showcase filled with attractive cuts of many kinds.

"And does the Government grade other kinds of meat than beef?" she asked.

"Yes", responded the meat man, "they do the same sort of grading on veal and lamb and various manufactured products."

"And are the grades on veal and lamb the same as those on the beef?"

"Practically the same. Just as I told you in the case of beef, if you will remember about the three grades, you won't have any trouble buying veal or lamb no matter what the occasion or what price you want to pay, and in the case of these meats you don't have to bother about the class."

"You spoke about manufactured products. Do you mean sausage and that sort of thing?"

"Yes, sausage, frankfurters, bologna, hams, bacon, and all those manufactured meats. They do the grading on a rather different basis in this case, however. The Government grader takes account of a number of different qualities in those products—such things as color, firmness, composition, texture, flavor, condition, aroma, uniformity, and I don't know what else. If all these things measure up to the top standard set by the Government, the meat is graded as U. S. No. 1. That is the only grade the Government has been requested to certify so far. If the ham or bacon or sausage isn't good enough to be graded No. 1, it simply doesn't get a U. S. No. 1 Certificate of Quality.

"Of course you remember that all meat from Federally inspected plants must have the little circular stamp showing it to be disease free. Also many of these prepared products have stamps showing private trade names or terms of various sorts. But all that has nothing to do with the particular thing we are talking about. What we are talking about is the certificate of grade or quality.

"With this kind of product you look for something a little different. Instead of that long ribbon of purple words stamped on the meat, the Government grader ties a little round cardboard label to the meat or the same label may be printed or stamped on the container. On this little round label are printed the words 'Certificate of Quality' and underneath that, 'U. S. No. 1 Grade.' The tag may also show what packer made it, the date of grading, and so on."

The meat man reached in the showcase and drew out a package of sausage on which was printed the little round label.

"This sausage, for instance," he said, "is U. S. No. 1 grade. Of course some people like a lot of sage in their pork sausage or a lot of pepper in some other kinds. Others don't like these things at all. This grade label doesn't settle the question of taste but it does mean that as carefully as can be judged, in this package you have a product of general excellence."

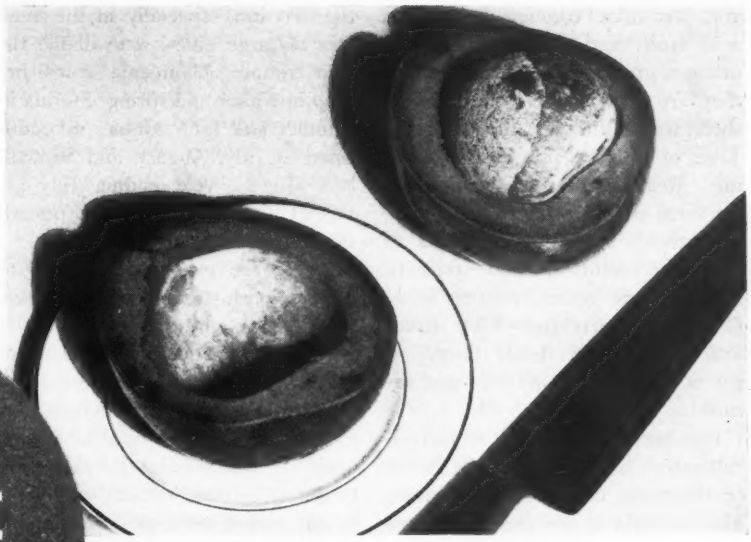
"So then there isn't any choice of lower grades at cheaper prices with these products?" asked Mrs. B.

"The Government service is not compulsory, and so far it has never been asked to certify lower grades on this type of meat. This, you see, is entirely a grade for excellence. If you want to shop for something different, you are on your own as far as the Government stamp is concerned."

[Concluded on page 19]

"Marbling" is the name given to the white lines of fat which run all through fine quality beef. Tender beef is usually well marbled.

Both the yellow flesh near the stone and the greenish flesh near the rind of an avocado make good eating.



A Luxury Fruit Turns Plebeian

Once a decorative note in the fancy fruiterer's, avocados now find their way to chain-store counters and make their claim on planners of more moderate priced menus

A NEW plant appearing on American window sills, vying with ferns, geraniums, begonias, and rubber trees, is the young avocado tree, grown from the seed of the fruit used for a family salad. Though the seed of the avocado may sprout in a red clay flower pot and grow into a decorative plant, if it is to develop into a full size tree bearing luscious fruit, it is much more particular about its habitat. But both the large seed and the delicious flesh of this tropical fruit intrigue the American housewife. Over 20 million pounds of the fruit was eaten in this country in 1935.

Until recently the avocado was known as a luxury food in the United States, appearing as a salad de luxe on hotel menus and served in the average home only as an extra special delicacy. Reason was the usual one—cost. The first avocados grown commercially in this country sold as high as a dollar or more apiece. Today with large orchards in Florida and California, with shipments of fruits sent from Cuba and Mexico, the avocado has taken a nose dive in price.

"Nutty" taste of the avocado, unlike that of any of our more familiar fruits, is still strange to many American palates. In Mexico and Central America, the a g u a c a t e—the Spanish name for the avocado tree—is a familiar landmark. As elms and maples tower over the cottages of New England, aguacate trees guard the entrance of many a Mexican home.

"Tortillas and avocados", say the natives, "make good eating." Nutritionists nod their heads in assent, especially as to the good eating qualities of the avocados. The buttery flesh of the avocado is richer in oil than any other fruit except the olive; it contains some proteins and is a fair source of minerals. It also makes a showing of vitamin virtues. Most varieties of avocados contain vitamins A, B, D, E, and G. Some even run the gamut of the vitamin alphabet and add a small quantity of C to the list. Doctors often prescribe avocados as an A-1 food for diabetic patients who must have a diet with a minimum carbohydrate content. Avocados contain no starch and less than 1 percent of the fruit is sugar, yet, because of its generous supply of oil, it is a filling food, high in calories. The oil content of an avocado varies from 7 to 26 percent, depending on the variety. Caloric value depends on oil content. One-fourth to a half of a medium size avocado usually averages 100 calories. Composition of avocado oil is similar to that of olive oil. In digestibility, avocado oil is rated with butter fat.

Because of their texture and fla-

vor, avocados combine well with acid fruits and vegetables such as oranges, grapefruit, and tomatoes, or they are good served "on the half-shell" with a little salt, lime or lemon juice, or with a peppy French dressing. Real devotees of the avocado use them as a flavoring for ice cream, a sandwich spread, or addenda to soups, consommés, and omelets. Avocados are generally eaten fresh. Cooking detracts from their flavor and gives them a bitter taste. As yet no method has been devised for canning them.

Popular name for the avocado is "alligator pear." Scientists frown on this term, calling it a misnomer. The avocado is not even a distant relation of the pear family. Together with the cinnamon, sassafras, and camphor, it belongs to the laurel clan and is a tropical and subtropical evergreen plant indigenous to Mexico and Central America. Due to the popularity of its fruit, the tree is now cultivated in many countries, among them Hawaii, Cuba, Australia, South Africa, southern France and Spain, in the northern half of South America, in Central America, Mexico, and in Florida and California in the United States.

Spanish adventurers, shortly after their conquest of the New World, are credited with bringing the first avocado seedlings to Florida. Since the turn of the twentieth century the United States Department of Agriculture has studied the life habits of the avocado. Government plant explorers have wandered through Central America, Peru, Ecuador, Chile, Mexico, and the West Indies for types of the fruit best adapted to Florida and California climates. The first commercial grove was started in Florida about 1900; in California in 1910. Today there are about 8,000 acres of avocado orchards in California and about 2,500 acres in Florida. As the crop at home and abroad matures at different seasons, the avocado, especially in the markets of large cities, is available the year round. California ships her crop in winter and spring, Florida in summer and fall. Cuba's avocados ripen in July, August, and September. In the year ending July 30, 1937, Cuba sent us 9,084,000 pounds of the fruit.

There are over 400 varieties of avocados, which vary greatly in size, shape, color, and texture of skin, flavor, and nutritive value. Mature avocados, depending on the variety, range in weight from 6 ounces to 3 pounds. The shape may be round, ovoid, or bottleneck; the skin may be thick or thin, smooth or rough. Color varies with species, ranging through shades of green, purple, maroon, and dark mahogany. Shape, color, and texture of skin have little relation to eating quality. Goodness is dependent primarily on maturity of fruit and high oil content.

Hundreds of varieties of avocados are conveniently grouped into three races—Mexican, Guatemalan, and West Indian. Varieties of all races are cultivated in this country. Fruits of the Mexican are, as a rule, thin-skinned fruit averaging about 8 ounces. Though the fruit has a delicious flavor, because of its small size and tendency to bruise easily it is not cultivated commercially in this country. General characteristics of the Guatemalan varieties are thick, rough, shell-like skins in shades of dark green, red, and bronze. Popular variety with the California growers is the "Fuerte", a hybrid between the Guatemalan and Mexican races. The Fuerte is a fruit weighing from one-half to one pound, is of an attractive light green color, has a high oil content, and excellent flavor. The Fuerte is much more resistant to cold than many other varieties. Most sensitive to frost are the West Indian varieties of avocados, cultivated more in Florida at the present time than in California. The skin of the fruit is always smooth and leathery, and in green skinned varieties is always a yellowish green rather than a dark green.

Like the orange and lemon, all varieties of avocado want a climate free from frosts and from intense heat waves. Refusing to live with its roots deep in water or in parched

Avocados filled with citrus fruits and "pepped up" with a snappy salad dressing make a colorful and delicious salad.

earth, the avocado demands a moist soil with good drainage. The hard but brittle wood of the trees snaps easily in angry storms. If an orchard is to have a long life, it must be situated in a spot protected from sweeping winds. Granted that an orchard has perfect soil and climatic conditions, it demands from its caretakers constant protection against insects and blights.

In blossoming season the tree is a yellowish, greenish mass of flowers, but only a small percentage of its profuse blossoms bear fruit. The yield depends largely on variety, soil, and climatic conditions and the size of the crop the previous year. A good yield per tree in a well-cared-for, well-situated orchard is from 3 to 5 crates of fruit a year. Prices which growers receive for their crop vary with varieties grown and season of shipment. Growers' returns usually range from 2 to 15 cents a pound. According to studies made of Florida avocado orchards, the average cost of maintaining a grove in good condition ranges from $75 to $100 an acre a year.

Problems aplenty plague growers of this fragile fruit. One of them is knowing the exact moment when it should be picked. Unlike most fruits, the avocado hangs out few signals that picking time has come. As maturity approaches, only slight changes in the color of the skin and stem appear as a warning to growers to get on the job. Nor does the softness of the fruit give the tip-off, because avocados do not soften on the tree. Calendars are little guide, either, since the ripening age of one variety may change from season to season. Yet knowing just when to pick is a prime prerequisite to getting best values—in money for growers, in flavor for consumers. As the fruit matures, its fat content increases, and the richer in fat the better in flavor are avocados. Immature ones have a watery, insipid taste. Overripe avocados rate black marks, too, because they are apt to be rancid and unpalatable. Spotting the moment when the fat content is at its best is a tricky business. The surest test is a laboratory one, but obviously growers cannot rush off to laboratories to decide the matter for them on every and all occasions.

Great care must be taken, too, in picking avocados. Each fruit is clipped from the tree and is carefully handled so that it will not bruise. Usually pickers are equipped with canvas bags or buckets lined with excelsior. When the fruit is gathered, it is then taken directly to the sheds for grading and packing. Most fruits taste best when fresh-picked, but the avocado requires 10 or 12 days' respite to "soften up" before it makes good eating.

For marketing their crops the growers of California and Florida have organized cooperative associations. Organizations in each State have carried on research work studying the idiosyncrasies of the avocado and breeding hardy varieties which will rate high in flavor and withstand long distance shipping. They also advise growers on the best methods of fertilizing, spraying, and general grove care. Both cooperatives have made an attempt to standardize grades and packing methods, to regulate movement of the crop to market, and to advertise their product, which they hope in time will be as common in the American fruit basket as the tropical banana.

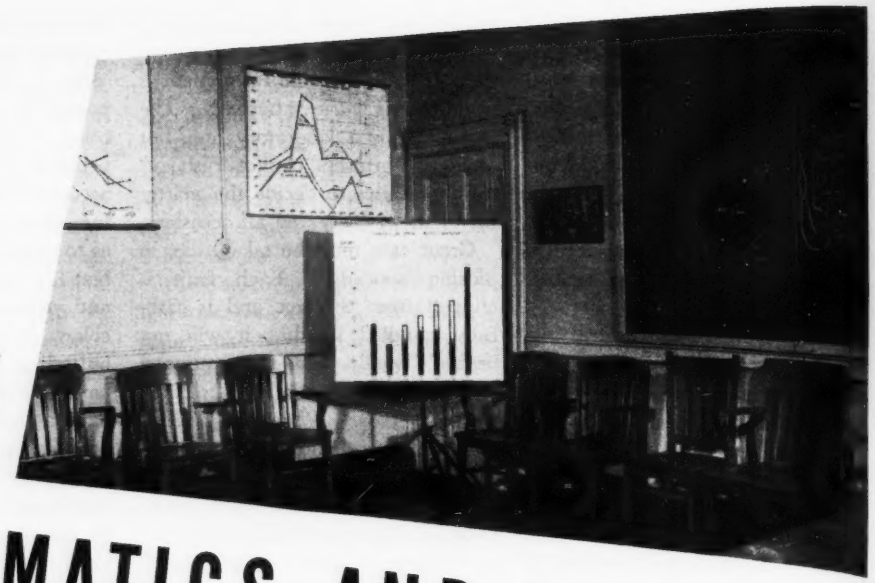
No Government grades are established for the fruit, but ambitious growers have established their own grades. Fruit from California which has an oil content of at least 8 percent and measures up to the top grade in keeping and shipping qualities and general marketability are stamped "Calavo." "Flavocado" is the trade name stamped on fine-quality avocados marketed through the Florida Avocado Growers Exchange.

Consumers' preference in avocado varies in different sections of the country, but predominant choice seems to be for the medium half-pound to pound size fruit, green in color, and with a fairly smooth or pebbled skin. Appearance evidently accounts for preference, as size, texture, and color of skin reveal little as to quality of fruit. Avocados are best for eating when the flesh is soft and yellowish or yellowish green in color. Texture of flesh should be butterlike. Avocados which do not have this buttery texture are apt to have a flat, watery taste. "Mushiness" is characteristic of the flesh of overripe fruit. Pressing a fruit gently will give some indication of its ripeness. Thin skinned varieties yield readily when the flesh is soft; thick skinned types yield slightly. Fruit with dark, sunken spots and broken skins should be avoided. Both are indications of potential decay. The seed of the fruit is always fairly large, but it should make up less than a fifth of the total weight.

If an avocado needs a little more time to soften before serving, place it on a shelf in a room at normal temperature. Refrigeration retards softening. To hasten the ripening process, wrap the fruit in a cloth for as long as necessary. The flesh of an avocado that is just right for a salad will stay bright for an hour or so, but in time it is bound to darken. No more of the flesh should be peeled than is to be used for one meal. The remainder should be put in the icebox, but never directly on the ice or near the ice coils.

"It is only by divesting our minds of questions of ownership and other machinery of distribution, and by looking solely at the question of consumption—asking ourselves what is the annual product, who consumes it, and what changes would or could we make—that we can keep in the world of realities."

Justice Oliver Wendell Holmes.



Major job of cooperatives is to get favorable prices for their members. Trends in production, sales, and market conditions are closely studied in determining cooperative policies. Here is the conference bargaining room of one cooperative.

MATHEMATICS AND MILK

Toughest of milk problems—for many farmers and most consumers—are current devices for paying farmers for this basic food. In this fourth of our series on "Milk for Millions" we dissect typical payment plans *

CONSUMERS buying milk in the city do not have to be mathematicians to figure out what a quart of milk costs them. Few farmers know when they sell that milk how much it will bring them. Even when the check comes in, they often think higher mathematics is child's play compared with the computations involved in figuring out the price they receive.

One prime fact complicating farm prices is that consumers do not want all the product of dairy farmers to come to them as fluid milk. They want, in addition to fluid milk, cream and a lot of manufactured dairy products—butter, cheese, evaporated milk, ice cream, and such foods.

Second complicating factor behind farm prices for milk is that producing milk for bottling is a more expensive business than producing milk for manufacturing, as we pointed out in our last milk story (CONSUMERS' GUIDE, Sept. 6, 1937). In addition to the economic pressures pushing the price of milk for fluid uses in local markets up above the price of milk utilized in other ways, there have come about various kinds of more or less efficient human control of this price. Absence of human control plus economic reasons, on the other hand, tend to keep the price of milk for manufacturing purposes down to a lower level. These contrary pressures we discussed previously.

Comes a third complication. If dairy farmers located in expensive producing areas could produce just enough to meet consumers' day-to-day demands for *fluid* milk, the problem of their prices would be relatively simple. But such a neat and tidy arrangement is not possible, or at least has not yet been discovered. Daily and seasonal fluctuations occur in the supply of milk that farmers serving a city bring to market. Consumers' demands, too, vary. To meet maximum consumer demand for fluid milk, each city usually requires a certain amount of "surplus" milk, normally around 10 to 15 percent of the fluid milk and cream sales. Any "surplus" greater than the amount needed to insure consumers with their fluid milk needs the year around is an economic embarrassment. Such milk must be converted into manufactured dairy products at a price level established by the most cheaply produced milk in the country.

Fourth complicating fact behind farmers' prices, growing out of these other considerations, is that most farmers serving city consumers get

* *Previous chapters of this series appeared in the August 9, August 23, and September 6, 1937, issues of the Consumers' Guide.*

Half of the fluid milk and cream city people consume is marketed through farmers' bargaining cooperatives. The man in the white overalls, representative of one such co-op, is inspecting a member's equipment.

paid many prices for the one product, fluid milk. Even when some of them are paid a single price, called generally a "flat" price, the uses to which the milk is to be put are considered in that quotation.

●

To Farmer Jones outside of Philadelphia, with his head in the flank of his cow, it may seem strange that part of the milk flowing into his pail will fetch, say, 6 cents a quart while the rest brings lower prices. It's all the same milk, from the same cow, produced in the same way from day to day. But when his milk has eventually to be sold in competition not only with other expensively produced milk but with the products made from inexpensively produced milk, the dealer who buys his product is bound to pay him a price or prices which reflect this fact. So has grown up a variety of systems of payment of "class prices." Under these "class price" systems farmers get their highest price for the milk which dealers later sell to consumers as fluid milk (often called "Class I"); they usually get a lower price for milk going into fluid cream ("Class II"); milk used in manufacturing brings still lower prices ("Class III", etc.). Classifications may vary in different markets. In some cities milk has been classified in as many as six groups.

Losses sustained by Farmer Jones on the sale of milk for manufacturing must be counterbalanced by the price he receives for milk used in fluid channels, in order to keep him in the business of supplying fresh fluid milk to the city.

Price difficulties of farmers nearly all center around this problem of the relation of fluid to "surplus" milk prices. If the price for fluid milk is much more than adequate to cover the additional costs of its production, other farmers are encouraged to produce milk for the more attractive fluid market. If more milk, expensively produced, comes into the city and no additional inducements are made to consumers to increase their consumption, the additional milk is forced into the low return manufacturing channels. The average price to the farmer for all his production is thus lowered. Farmers then naturally press for a higher price on milk used for fluid purposes. If they are able to force up this price, the spread between fluid milk and "surplus" prices is further increased. As the price to farmers for "Class I" milk goes up, the price charged to consumers for a quart usually follows suit. Higher consumer prices in turn reduce consumption, still further creating surpluses.

●

Such pressures set the stage for dealers who buy from producers at slightly more than the average price and sell the major portion of their milk to consumers at slightly lower prices than other distributors are charging. When such competition becomes sharp, other dealers then lower their prices to consumers for bottled milk and to farmers for Class I milk. The price war does not subside until a sufficient number of participants has been eliminated or, more frequently, until prices have gone so low that too many farmers have been eliminated. To avoid shortages of milk for bottling, the spread between the manufactured price and the fluid price must again begin to expand.

Nobody knows exactly what is the most satisfactory spread between these two prices for all markets and for all farmers. What is the right figure in one market may be too high in another or too low in a third. Costs vary greatly from market to market. Milk is shipped into some markets from points as far away as 300 or 400 miles, while in others it comes from farms less than 40 miles distant from a city. Sanitary regulations in some cities impose heavy costs on farmers and in others relatively little expense. Costs of producing an even supply of milk throughout the year are higher in some areas than in others.

●

Class price schemes, or "utilization price" plans as they are sometimes called, operate in practically every milk market where farmers are organized cooperatively. Records of the Cooperative Division of the Farm Credit Administration indicate that about half of the fluid milk and cream consumed by city people is marketed through these bargaining cooperatives. Some of these cooperative organizations act like a labor union whose officials bargain for the best possible price they can get from the bosses. Some actually take title to their members' milk and manufacture a part of it in plants cooperatively owned or operated. Except for these and a few which own and operate retail distributing units, selling fluid milk and cream directly to consumers, milk co-ops are really bargaining associations.

Usually class price schemes work in one of three ways: A distributor deals directly with the farmers from whom he buys; a group of distributors deals with its farmers through a cooperative pool; or all the distrib-

utors of the city pay into a Government controlled pool which in turn pays out to farmers. The principle of payment under a class price scheme is the same under each system. The farmer usually does not receive three or more different checks representing his payment for milk used in three or more different ways, but one check representing a "blended price."

●

Take first the individual distributor who pools all the milk supplied him. Distributor Smith, let us say, agrees to pay dairy farmers three prices according to the uses he makes of their milk. For Class I milk, to be used for bottling, he will pay $2.50 per 100 pounds. For Class II, to be used for cream, he will pay, say, $1.85 per 100 pounds. For Class III, which is the milk he will manufacture into cheese, he will pay the lowest price of all, say, $1.50. All of the milk must contain 3.5 percent butterfat; if some of it is more or less rich than this, changes will be made in these prices. For the moment, however, we will assume that all the milk which neighboring farmers deliver measures up to this standard.

Theoretically the bottom underneath the three prices Smith pays his farmers is the price of butterfat in Chicago. This is the great wholesale center for butter, because it is close to the area where a great proportion of the butter, produced under the most favorable conditions, is made. The Class III price which Smith offers is some 3½ times the wholesale price of butter at Chicago plus 15 cents per 100 pounds, which represents the cost of transporting such butter from Chicago to his city. Class II price likewise is geared to the butter price in Chicago, but with a larger allowance made for transportation costs. Class I price is only indirectly geared to the Chicago butter price because conditions affecting the supply of milk for fluid uses are, as we have seen before, very different from those affecting the supply of milk for cream and manufacturing purposes. In the case of this type of milk Distributor Smith must rely on sources of supply—not in the lower cost dairy States—but in the area surrounding his city because of the sanitary conditions laid down by the local health board. And he must be sure of a steady supply which will meet his needs even in the period when cows in his neighborhood are producing least. So the price he offers for Class I milk is the price which he believes will most likely give him a supply that meets all these requirements.

●

Now Distributor Smith obviously does not know at the moment when the farmers deliver their milk to him just how much of each farmer's supply is going to be used for the three purposes. The use depends on consumers' demand for fluid milk and cream. So instead of making immediate payment, Smith keeps a day-to-day record of the total amount of milk each farmer delivers and of his own sales of fluid milk and cream and manufacture of cheese. At the end of a month, let us suppose, this is the way the record looks:

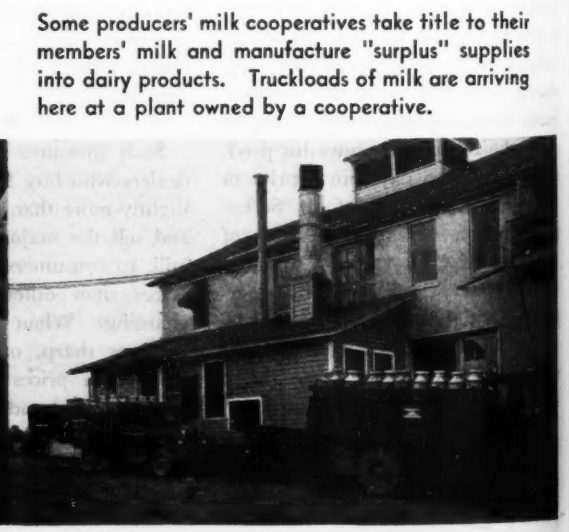
Farmers have delivered to Distributor Smith 5,000 hundredweight of milk. Distributor Smith has used these 5,000 hundredweight in these ways and is obliged to pay these amounts, on the basis of the prices quoted above:

Class I...	2,500 cwt.	@	$2.50=	$6,250
Class II..	1,500 cwt.	@	1.85=	2,775
Class III.	1,000 cwt.	@	1.50=	1,500
	5,000 cwt.			$10,525

For these 5,000 hundredweight, then, Distributor Smith must pay

Members of the Board of Directors of a large milk co-op are here threshing out involved problems of production, demand, and price, before presenting demands to the milk distributors.

Some producers' milk cooperatives take title to their members' milk and manufacture "surplus" supplies into dairy products. Truckloads of milk are arriving here at a plant owned by a cooperative.



$10,525. For one hundredweight he must pay $10,525 divided by 5,000, which is $2.10½. This is known as the "blended price." For every hundredweight of milk which each farmer delivered to him in the previous month Smith pays $2.10½. If Farmer Jones delivered 100 hundredweight in the month, he will get $210.50.

Suppose that the demand for *fluid* milk in that month had been greater than it was and Distributor Smith had disposed of the 5,000 hundredweight in this way and therefore had to pay these amounts to his farmers:

Class I...	4,000 cwt.	@ $2.50=	$10,000
Class II..	750 cwt.	@ 1.85=	1,388
Class III.	250 cwt.	@ 1.50=	375
	5,000 cwt.		$11,763

Had this been the way sales went, then each farmer would have received for each hundredweight of milk he delivered to Distributor Smith $2.35, instead of $2.10½ as above.

If demand for *fluid* milk had been much less than it was, such a ledger as this might have developed during the month:

Class I....	1,500 cwt.	@ $2.50=	$3,750
Class II...	1,000 cwt.	@ 1.85=	1,850
Class III..	2,500 cwt.	@ 1.50=	3,750
	5,000 cwt.		$9,350

Each farmer would have received as a result of such sales a blended price of $1.87, instead of the $2.10½ as above.

In actual practice this third situation in which sales of Class III milk are so much greater than sales of Class I seldom happens. As an ordinary thing most of the milk flowing into cities goes into bottles rather than into manufactured dairy products. But it can happen for a period.

●

Obviously, under such a system of payment, even though Nation-wide competitive forces may prevent any increase in Class III prices, local dairy farmers' returns can be swelled in one or both of two ways: One, by increasing the price paid for Class I milk; two, by increasing the proportion of the milk sold as fluid. The strength of a producers' cooperative may be used in both directions, but cooperatives usually focus their efforts on building up the price of Class I milk. If the temptation to increase the spread between these two prices is indulged in too much, however, a new complicating factor appears to defeat such efforts.

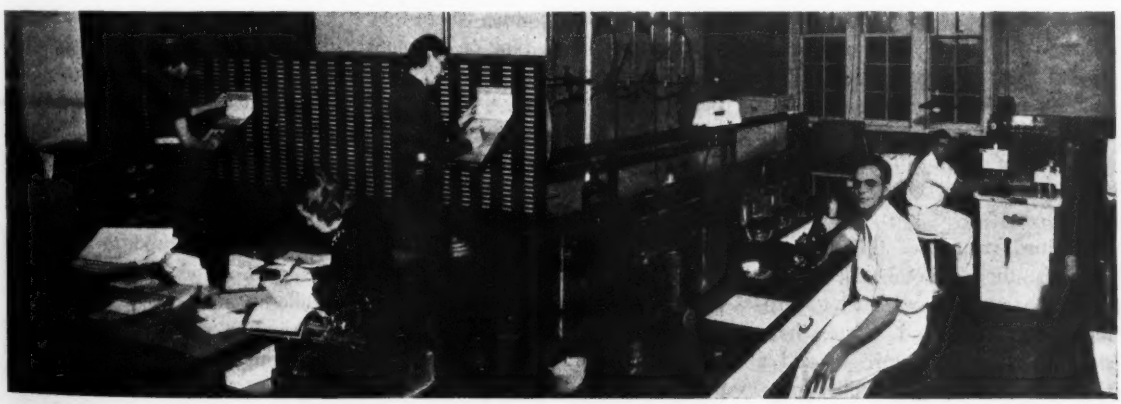
Distributor Brown steps into the picture. Brown goes calling on the farmers in the neighborhood and makes them what appears to be an attractive proposition. Suppose the price of Class I milk has been forced up to $2.70 per 100 pounds, while the price of Class III remains at $1.50. The "blended price" which Smith's suppliers get under this scale may run around $2.25 per hundred pounds. Brown proposes to farmers: "Sell me your milk, and I will pay you a flat price of $2.35 for it. That's 10 cents better than Smith's blended price to you."

Such a deal can last only so long as the Browns are unsuccessful in walking off with an important part of Smith's business. When they become too successful competitors, naturally Smith's $2.70 price for Class I milk comes tumbling down.

Uneven bargaining conditions among farmers or among distributors have led in some markets to the "cooperative pool" method of paying farmers. Under this method each distributor, instead of working out a "blended price" on the basis of his *own* use of milk, reports to a central agency the amount of milk he has received and the use he has made of it. This central agency, the "cooperative pool", collects such data from all member distributors and totals all receipts and all uses. Then

Keeping records of deliveries of individual members and payments to them is complicated business, requiring elaborate and well-maintained files. This office is maintained by a big producers' co-op.

Producers' milk cooperatives occasionally maintain fine laboratories, such as this one, where complete tests are made to determine the bacteria count of milk delivered by each member.



it finds out what percentage of *all* milk received was used as Class I, as Class II, or Class III, and so works out a blended pool price. Each farmer is then paid for his milk on the basis of this blended pool price.

Take, for example, this situation: The cooperative pool in X City finds at the end of the month that its member distributors have received from farmers, in all, 20,000 hundredweight of milk. It finds also, from reports by individual distributors, that these 20,000 hundredweight have been disposed of in this way: 75 percent as Class I, 15 percent as Class II, 10 percent as Class III. A single blended pool price is worked out on the basis of these uses.

●

Cooperative pools balance accounts, as it were, this way: Suppose Distributor Brown had used 80 percent of the milk delivered by farmers to him as Class I milk. Had he been paying his farmers on the basis of his own use, his blended price would have been more than the blended pool price. Distributor Smith, on the other hand, may have used only 70 percent of the milk delivered to him as Class I. His farmers, therefore, get a higher price than they would have received had Smith been operating on the basis of his own pool system, as described before. By averaging uses, and using these averages as the basis for payment, the cooperative pool is intended to result in giving all farmers—regardless of the uses of milk by individual dealers—the same rate of return. Thus—theoretically at least—bargaining powers among the various farmers, on the one hand, and among the various member distributors, on the other, tend to be equalized.

A third variant of this payment plan is the "market-wide pool", which has come about since governments, Federal and State, have stepped into the picture to add a third-party control of milk prices. (As we pointed out in our last milk story, this third-party control is not necessarily representative of consumer interests but may simply attempt to adjudicate differences between producers and distributors.) Instead of reporting to the "cooperative pool", distributors under this system report to a milk market administrator. The milk market administrator gets out his adding machine at the end of the month and computes totals of milk received by all distributors from each farmer and of milk used in various ways by each distributor. A blended price is then computed on the basis of these uses, and the dealers pay each farmer for his milk at this price.

Theoretically, again, by making the whole market one unit and by making conditions of payment the same for all farmers supplying that market, fairer conditions for both sides result. In addition, by adding an independent milk market administrator who is hired not by distributors or producers but by the Government—and paid for independently—the opportunity for and the practice in manipulating accounts should be lessened.

●

So far we have been describing class-price methods of payment to farmers as if these were the only methods used. There is one other general type of payment found in some markets—the markets where producers' cooperatives usually have not developed to a point where they are a force. This type of payment is called the "flat-price plan." Under this plan one price is paid for all milk with a specified butterfat content. Flat prices, however, do not mean that the use to which the milk is to be put is not considered at all. Uses are considered, and the final flat price is actually an approximation of the relative value of milk for all different purposes.

In general, farmers find that flat prices work out at a lower level than the "blended price" under a "classified price" system of payment. One reason for this is that the distributor who buys at a flat price assumes more risk in disposing of his milk profitably than does the distributor who pays for his milk according to the use he has made of that milk. Having a greater risk, he is therefore inclined to pay farmers less.

Other systems of payment are found here and there over the country. By and large, they are variations, however, of the two types now described: The "classified price" and "flat price" systems.

Milk production is seasonal. Not all milk producers are in the business full time. Some are what is known as "seasonal producers." Full-time producers produce milk the year round, in the winter when the feed costs are high as well as in the summer when pastures make feed costs low. Seasonal producers produce milk for the market only during the low-cost summer season or when the market is unusually attractive.

Result is that in early summer milk production overflows fluid milk needs, pushes the percentage of milk devoted to fluid-milk purposes down to the year-round low point. Average prices, or blended prices, go down as the percentage of milk used for fluid-milk purposes goes down.

Full-time milk producers are understandably annoyed when they receive lower prices for their milk; they are even more annoyed to see part-time dairy farmers horning into their markets. Dairies, too, faced with the problems arising out of wide seasonal variations in the production of milk, look for some method to give a special reward to regular producers.

●

Technique devised to accomplish this is called the "base-surplus" plan. While an individual distributor may use such a plan, it is much more commonly used by a producers' co-

[Concluded on page 18]

"IN YOUR publication 'Consumers Look at Eggs', you state that some distributors of Government-graded eggs mark the carton, 'Not to be sold after (date).' We admit ignorance of this practice and would appreciate information about the date limits set by these distributors and the length of time this type of egg dating has been employed."

CONSUMERS' GUIDE is glad that its readers have found its bulletin on eggs so helpful. Copies may still be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C. The price is 10 cents.

Now to get down to the business of answering the double-headed question. Date limits marked on egg containers vary with different distributors. They range from 5 to 10 days—with 5 as the preferable deadline where possible. However, if eggs are properly handled, it is the opinion of Government experts that they will hold their original quality—as U. S. Extras, for example—longer than 5 days.

Sales of eggs under certificates of quality or seals have been under way for something like 7 or 8 years. The placing of a date on cartons by distributors, limiting the time beyond which the eggs should not be sold, is a more recent development. It does not, we believe, go back further than 3 or at most 4 years.

"WHAT IS the best way of storing potatoes? I have noticed that some of my stored potatoes acquire a disagreeable, sweetish taste."

Most of us apartment dwellers don't have to worry about this problem. We are lucky if we have a shelf or two in the kitchen on which to lay away a week's supply of foodstuffs. But for those fortunate housewives who have a home garden and a good old-fashioned cellar for storage, we have just the needed hints for keeping the potato crop for winter use. These hints are the outcome of a study recently completed by scientists of the United States Department of Agriculture and several agricultural experiment stations in the great potato-producing States. Request for this study came from manufacturers of the popular potato chip and from restaurant men who had long scratched their heads over the question why the flavor and texture of their cooked potatoes varied continually—often to the annoyance of customers. The experts who turned their attention to this matter found that the trouble lay with the storage temperatures. Their findings bear directly on the question that has been sent to the CONSUMERS' GUIDE.

Here is what the scientists recommend: Store potatoes at an even temperature of 60° F., when they are to be eaten before New Year's Day—that is, before the end of their dormant season. Potatoes intended for use in late winter months or in the spring, must be handled differently to avoid sprouting. They should be held at about 40° F. Here is where the sweetish taste comes into the potato picture. It is the result of the sugar the spuds have developed in storage. So the potatoes must be reconditioned by storage at room temperature—that is, 65° to 70° F.—for about a week or two before consumption. The unpalatable taste will have entirely vanished at the end of this time.

Of course, these directions were framed particularly for commercial firms which could control storage conditions perfectly. But there is no reason why potatoes can't be put away in the home cellar if temperature and humidity can be maintained at the right level. Apparently a cellar with a dirt floor is more satisfactory for storage than one with a cement floor. It should have an insulated partition separating the furnace from the storage space. With frequent temperature readings being a necessity, a thermometer is standard equipment.

Darkness is required in the storage room since potatoes sprout if stored in a light place. There should be a window that can be opened on mild days or nights to allow for ventilation. In the North where winters are cold, potatoes can be piled high in a bin—preferably a slat bin on legs—but they should never rest against an outside wall. In warmer regions, potatoes do better if put in baskets or crates and placed on slat shelves. If they must be stored in bins, they should be piled only a foot or two deep to avoid overheating.

Now for one more tip. Apples or any other fruit should not be stored near potatoes. The fruit will take on the earthy flavor, so pleasant in the spud but so disagreeable in an apple.

"Is there any way of telling if the food inside an unopened can is bad? How does freezing affect canned food? I left some canned goods in my summer cottage a year ago. Undoubtedly these supplies froze during the winter months, since my camp is in a region of low winter temperature. I didn't try using these foodstuffs this year because I did not know whether they were safe."

There is one good check on the condition of food in unopened cans—the tell-tale bulge at the ends which indicates spoiled food. Spoiling food generates gases that exert pressure against the walls of the container, therefore curve the ends of the can outward. Ordinarily these end plates are flat across or slightly concave, as you may have observed.

There is no danger in eating canned foodstuff that has been frozen, unless the ends of the can from which it came bulge outward. That is the same rule that applies to unfrozen food too. Freezing may lower the grade of some canned products. That is, it may affect the taste and appearance unfavorably. But then there is this to remember: Even unfrozen, your canned goods might not have been in as good condition the second summer as the first. Time takes its toll in quality where canned goods are concerned.

"This year I expect to purchase a new winter cloth coat—a real event in my life. Can you give me advice that will help in making a good selection?"

Confronted with this large order we sent out an SOS call to the Bureau of Home Economics. The Bureau thinks shoppers are wise to ask for outside assistance, because the many new weaves and mixtures of fabrics on the market make it difficult to judge quality in coat fabrics. That is why so many people are agitating for labels on ready-made garments that tell all about the fabric. Tags provided by manufacturers can furnish the best way of finding out what you are getting, since the manufacturer is the only one who really knows what has gone into the making and finishing of the cloth. But such labels on coats are rare. So customers should take a long breath, summon their courage, and prepare to do a lot of asking. First ask the salesperson whether the coat you are considering is all wool or a mixture, and find out the quality of the wool. If she doesn't know, carry the matter a step further to the buyer. In case she fails you, get a written statement from the store that it will make a complete adjustment should the coat soon show defects with normal use.

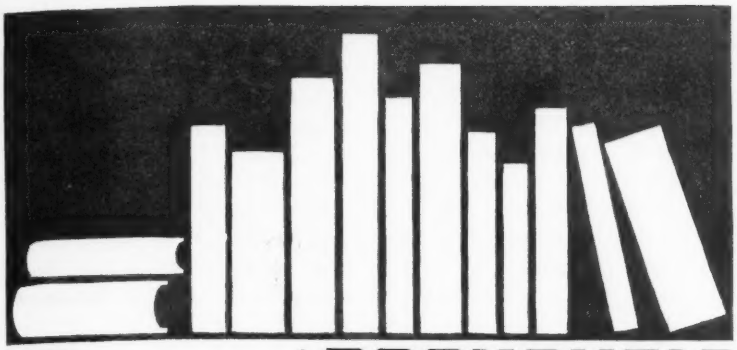
Good quality wool gives a feeling of aliveness and springiness as you crumple it in your hand. Good coarse types of wool are best suited to coats from which you want hard wear. Soft fine wools are adapted to dress coats. Poor quality woolens are the ones to avoid at any price. They may be made of fibers that have been reworked until they are uneven, harsh, and stubby with most of the natural qualities of the wool destroyed. These fabrics feel heavy and boardy—to use the adjectives of the Bureau of Home Economics—and have no springiness. Coats made of such goods become baggy; the material looks matted and dull.

If the coat is a mixture, find out what the other fibers are and what is their quality. Wool is often blended with secondary fibers to reduce cost. The job may be so skillfully done as to avoid detection, but the other fibers may give the material undesirable characteristics. For instance, a large amount of cotton added to wool would make it less warm, less long-wearing, less wrinkle-resistant, and less likely to hold its color. To sum up these minus values a coat made from such material would be less likely to give satisfaction. When silks or synthetics are mixed with wool to give it a special fleck, you will want to know whether the second fiber is silk or a synthetic because silk is stronger and more elastic. Examine a coat fabric on both sides. For durability you will want a firm weave without loops on the surface to snag. Pull the fabric both ways to see if it stretches to excess. All materials should be thoroughly shrunk, and colors should be fast to sun, rain, cleaning, and perspiration.

Lining, interlining, style, workmanship—all these count toward a successful purchase. Consumers not familiar with tailoring are bound to run into trouble in judging workmanship in a garment that has so much of its detail hidden from view. However, they should remember to look for precise workmanship, short stitches in seams, and strong thread. Each part of the coat should have received a thorough pressing before the coat was put together.

We haven't the space to cover the whole list of points to check when buying a coat. Write to the Department of Agriculture, Washington, D. C., for Leaflet No. 117, "Quality Guides in Buying Women's Cloth Coats." It is yours for the asking as long as the supply lasts.

Washakie (Wyo.) County's clever 30-day food-buying experiment has captured the imagination of a prominent woman broadcaster in New York, who is going to tell her big eastern public all about it. She asks us for copies of questionnaires or other material used in this experiment. . . . We reported all available facts about the enterprise in our September 20, 1937, issue. To this correspondent, and any other readers who want to try the Washakie plan: Basic guide book is "Diets to Fit the Family Income", for sale by the Superintendent of Documents, Washington, D. C., for 5 cents.



Consumers' BOOKSHELF

SERVICES OF THE NATIONAL BUREAU OF STANDARDS TO THE CONSUMER, compiled by Robert Martino. 1937, pp. 27, illus. Address: National Bureau of Standards, Washington, D. C. Free. Reviews the research work of the National Bureau of Standards in the field of consumer goods such as automotive equipment, electric lamps, garden hose, gas service and burner design, insulation and insulating materials, motor fuels, paint and varnish, shoes, cleaning materials, and textiles. References to the more detailed publications of the Bureau are included in the text. Information is given about the Bureau's work in establishing commercial standards, simplified practice recommendations, and the certification and labeling plans.

FACTS, FADS, AND FRAUDS IN NUTRITION, by Helen S. Mitchell and Gladys M. Cook. Bulletin No. 342. 1937, pp. 31. Address: Mailing Room, Massachusetts State College, Amherst, Mass. Free. This pamphlet is "a summarization of information, decisions, and criticisms by recognized authorities concerning nutritional and therapeutic claims in food advertising as well as faulty concepts and notions regarding foods and nutrition." Sections on vague health claims, weight reduction, laxative foods, aids to digestion and predigested foods, mineral content claims for foods, vitamin claims, disease cures, and therapeutic claims for foods, therapeutic claims for mineral and spring waters, quacks and how they operate, food legends, and bibliographic materials are included.

CONSERVATION IN THE EDUCATION PROGRAM, by William H. Bristow and Katherine M. Cook, United States Office of Education, 1937, pp. 78, illus. Address: Superintendent of Documents, Washington, D. C. 10 cents. Purpose of this bulletin is "to provide school officials and others interested with information concerning progress so far made in introducing conservation into the school program, and to stimulate further progress through a description of instructional practices which have been successfully followed in a number of school systems." Lists of governmental and nongovernmental organizations engaging in conservation education activities and a bibliography are given.

COOPERATIVE BOOKSHELF, by the Consumers' Counsel Division of the Agricultural Adjustment Administration and the Consumers' Project of the Department of Labor. Consumers' Counsel Series, Publication No. 3. 1937, pp. 13. Address: Superintendent of Documents, Washington, D. C. 5 cents. A bibliography of Government publications on consumers' cooperation, organized under the following headings: General materials, organization and management, statistics of operation, credit, rural electrification, farm purchasing, self-help organizations, periodicals, bibliographies, directories, study courses, and statutes. Summaries of important Federal court cases involving cooperatives are included. This bulletin brings together publications in this field which are of current use or interest and have been issued by the various Federal agencies whose work touches on consumers' cooperation.

FINAL REPORT OF THE LEAGUE OF NATIONS MIXED COMMITTEE ON THE RELATION OF NUTRITION TO HEALTH, AGRICULTURE, AND ECONOMIC POLICY. 1937, pp. 327. Address: Columbia University Press, International Documents Service, 2960 Broadway, New York, N. Y. $2. This report is the result of 2 years' work by an international committee of agricultural, economic, and health experts under the auspices of the League. The first section gives a general survey of the problem and the work of the committee. The second section summarizes "the new knowledge of nutrition." The third section contains a detailed examination of the economic and agricultural considerations connected with nutritional policy. The report concludes with a collection of evidence relating to the present state of nutrition in various parts of the world, demonstrating that in spite of considerable progress that has taken place in recent decades, the problem is still an urgent one.

MATHEMATICS AND MILK

[Concluded from page 14]

operative in determining payments to its producer members. In such a situation, dealers figure farmers' returns on a "use" basis and report to the co-op the *total* amount they owe their farmers. The co-op then calculates individual farmer returns on a "base-surplus" plan.

Under such a plan, "base" means the amount of *fluid milk and cream* sales (plus a margin of safety to meet possible extra demands from consumers). "Surplus" means all other milk. First there must be worked out a "base" for each individual producer. Each producer's "base" is the same proportion of *his* total deliveries as sales of fluid milk and cream (plus the extra amount) are of total deliveries of *all* farmers supplying the pool. (Some plans provide that such "bases" be adjusted quarterly, some monthly, to keep them in line with actual sales.)

To illustrate: Suppose that cooperative X employs the base-surplus plan in distributing payments among its farmers. During November these farmers deliver 5,000 hundredweight of milk every day through the cooperative. Sales of Class I and Class II milk total 4,000 hundredweight each day. That is, total fluid milk and cream sales represent four-fifths of the total milk supplied. This is the "base" for the whole market.

Now Farmer Jones, one of the co-op members, supplies 5 of the total 5,000 hundredweight of milk delivered. His "base" is four-fifths of his total deliveries, or 4 hundredweight. Farmer Jensen, another member, supplies only 1 hundredweight. His "base" is also four-fifths of his total deliveries, or 80 pounds. All these figures represent conditions in November, the slack production period.

Months roll by. Summer comes. In June, production of milk is heavier. Farmers are now delivering each day through the cooperative 6,000 hundredweight. Let us see now how payment is distributed to Farmers Jones and Jensen.

Dealers, as we said, pay for milk to the cooperative under a "classified" or "use" price plan. Suppose the rates are these: $2.50 for Class I milk; $1.85 for Class II; and $1.50 for Class III. Payments at these rates stack up as follows:

Class I...	3,000 cwt.	@	$2.50=	$7,500
Class II..	1,500 cwt.	@	1.85=	2,775
Class III.	1,500 cwt.	@	1.50=	2,250
	6,000 cwt.			$12,525

This sum, $12,525, represents all the money to be paid to the farmers supplying the 6,000 hundredweight of milk. If a base-surplus plan were not in operation and if every farmer were paid at the same rate, each of them would get a blended price of $2.09 per hundredweight, or $12,525 divided by 6,000. But under the base-surplus arrangement Farmer Jones is to be rewarded with a higher rate of pay than Farmer Jensen, because Jones is a better source of supply in slack winter months.

●

So the dealers turn over to the cooperative the $12,525, and the cooperative sets to work to figure out the relative shares of Jones and Jensen in this pile. First the co-op determines the value of the excess or "surplus" milk. Back in November it was agreed between dealers and the co-op that the total base was 4,000 hundredweight. That is still the base in June. Deducting 4,000 from total deliveries in June, the co-op finds that in this month the "surplus" comes to 2,000 hundredweight. "Surplus" milk is paid for at the Class III price, $1.50. The value of the "surplus" is then $1.50 times 2,000 hundredweight, or $3,000. This value is then subtracted from $12,525 to get the total value of the "base" milk. The balance, or $9,525, represents "base" milk value. To obtain the price to be paid for each hundredweight of "base" milk, the co-op then divides 4,000 into $9,525 and gets approximately $2.38 per hundredweight.

Next job is to compute the sums of money to be paid to Farmers Jones and Jensen. Each of them, it will be recalled, has an individual "base." For this "base" milk each will be paid at the rate of $2.38. For all milk delivered above this "base", they will be paid at the rate of $1.50.

If Farmer Jones has delivered 5 hundredweight, he gets $2.38 for each of 4 hundredweight (his "base"), and $1.50 for the extra milk delivered. His average returns for the 5 work out at $2.20 a hundredweight. Now look at Jensen's returns. He, too, has delivered 5 hundredweight in June. But his base was four-fifths of 1 hundredweight, or 80 pounds. For this he receives $1.90, which is four-fifths of the $2.38 rate for "base" milk. In addition, Jensen has delivered 4⅕ hundredweight above his "base" amount, and for these he is paid at the rate of $1.50. His average returns for the total 5 hundredweight come to $1.64 per 100 pounds.

New dairy farmers, not yet participants in a base-surplus plan, sometimes find it difficult to get a "base" assigned to them. If a market is already sufficiently supplied with fluid milk and cream, to give a new farmer a "base" means reducing the "bases" of other farmers. Naturally those first in the market like to hold on to their prerogatives.

Variations in this attempt to reward steady producers with a higher return are frequently found. All of them present problems and sometimes these problems lead to serious friction. Charges of favoritism have been made against some cooperatives in their administration of such schemes. Certainly the base-surplus plan is a complicated method of payment and unless it is well understood by farmer members there is a strong argument against it.

MEAT GRADES AT YOUR SERVICE

[Concluded from page 6]

"It is peculiar that I never heard about this Government meat grading before. How long has it been going on?"

"Oh, a matter of 10 years. It's entirely a voluntary thing with the meat trade. Dealers who want their meat graded by the Government can get it done, and they pay for having it done. The service is maintained in most of the large cities. I understand that the Government men grade hundreds of millions of pounds of beef alone every year now. And I hear that a great many of the better hotels in the big cities now will buy only Government-graded meats."

"But a good many stores and meat markets still don't have this graded meat, do they?"

"No."

"Why not?"

"Well, I expect the final reason, when you get right down to it, is that the public demands these things very slowly. It will come in time. It will be a universal system. That is because it's in line with progress in all lines of marketing of food products. It makes it possible for the producer to get paid for the quality he produces. For the consumer it cuts the risk of paying for quality but not getting it, and helps her to select the quality that she can best afford.

"You are the consumer and in the end the meat trade will have to give you what you want. If you ask for Government-graded meat every time you go to market, sooner or later you will get it."

"Only through a clear understanding by every citizen of the objectives, organization, and availability of the Government agencies can they render truly effective service and assure progress toward economic security."

—FRANKLIN D. ROOSEVELT.

WHEN YOU BUY MEAT

Inquire as to which kinds of meat are selling at the lowest price at the time of purchase; price the different cuts of meat; and note the proportion of waste to meat per pound.

Ask for meat grade-marked with the Government grading stamp which runs like a ribbon from shoulders to legs of the animal so that each cut is marked. The grade names are:

Grade	Beef, veal, lamb, mutton	Pork	Sausage
1st	Prime	No. 1	U. S. No. 1
2d	Choice	No. 2	
3d	Good	No. 3	
4th	Medium	No. 4	
5th	Plain or common	No. 5	

If there are no grade marks, look for these indications of high quality:

BEEF.—*Flesh:* Light cherry red in color, velvety in appearance, firm, fine-grained, minimum of connective tissue. *Bones:* Porous, pinkish white in color. *Fat:* Brittle, flaky, creamy white, marbled as a network through the meat.

VEAL.—*Flesh:* Fine grained, firm, somewhat moist, light pink; the lighter the flesh, the more evidence of tenderness. *Bones:* Soft, red, small. *Fat:* White in thin layer over the exterior; pinkish on the interior of the carcass.

CALF.—*Flesh:* Firm, fine grained, velvety, light tan to reddish brown in color. *Bones:* Soft, small, very red. *Fat:* Generous quantity, creamy white.

LAMB AND MUTTON.—*Flesh:* Firm and fine grained; color varies from pink in lamb to dull red in mutton. *Bones:* Most important indication of age is the break joint just above the ankle, which breaks in four well defined, smooth, moist ridges in lamb; less well defined, more porous, dry ridges in yearling lamb; cut as a smooth joint in mutton. *Fat:* Creamy or slightly pinkish in young lambs, becoming white in older animals.

PORK.—*Flesh:* Light, grayish pink in color, firm, fine textured. *Fat:* Firm, white, marbled through meat.

OUR POINT OF VIEW

The CONSUMERS' GUIDE believes that consumption is the end and purpose of production

To that end the CONSUMERS' GUIDE emphasizes the consumer's right to full and correct information on prices, quality of commodities, and on costs and efficiency of distribution. It aims to aid consumers in making wise and economical purchases by reporting changes in prices and costs of food and farm commodities. It relates these changes to developments in the agricultural and general programs of national recovery. It reports on cooperative efforts which are being made by individuals and groups of consumers to obtain the greatest possible value for their expenditures.

The producer of raw materials—the farmer—is dependent upon the consuming power of the people. Likewise, the consumer depends upon the sustained producing power of agriculture. The common interests of consumers and of agriculture far outweigh diversity of interests.

While the CONSUMERS' GUIDE makes public official data of the Departments of Agriculture, Labor, and Commerce, the point of view expressed in its pages does not necessarily reflect official policy but is a presentation of governmental and nongovernmental measures looking toward the advancement of consumers' interests.

In This Issue

Page

MEAT GRADES AT YOUR SERVICE . . 3

Mrs. Blank's butcher gives her some pointers on how to reduce the guessing on quality in the meats she buys.

A LUXURY FRUIT TURNS PLEBEIAN . 7

Once a decorative note in the fancy fruiterer's, avocados now find their way to chain-store counters and make their claim on planners of more moderate priced menus.

MATHEMATICS AND MILK 10

Toughest of milk problems—for many farmers and most consumers—are current devices for paying farmers for this basic food. In this fourth of our series on "Milk for Millions" we dissect typical payment plans.

CONSUMERS' MAILBOX 15

CONSUMERS' BOOKSHELF 17

U. S. GOVERNMENT PRINTING OFFICE 20791